

**EXHIBIT**

**A**

**ENGINEERING REPORT**

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**Randie Mullen v Sam's East, Inc. a/k/a Sam's Club**

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Prepared for

**COHEN AND GRIGSBY**

625 Liberty Avenue  
Fifth Floor  
Pittsburgh, Pennsylvania 15222

Prepared by

**Keith A. Bergman, P.E.**



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December 16, 2016



**ENGINEERING REPORT**

**MADE FOR**

**COHEN AND GRIGSBY**

**625 Liberty Avenue**

**Fifth Floor**

**Pittsburgh, Pennsylvania 15222**

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**Randie Mullen v Sam's East, Inc. a/k/a Sam's Club**

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**BACKGROUND**

It was reported that at approximately 8:00 AM on June 7, 2014, Randie Mullen was shopping at the Sam's Club store located at 2251 Century Drive, West Mifflin, Allegheny County, Pennsylvania, when she was struck by a chlorine bucket and became injured.

It was requested that the incident circumstances and related documents be reviewed to determine the nature and cause of this incident.

**SUBMITTED MATERIAL**

1. Pleadings:
  - a. Complaint.
2. Information Provided by Plaintiff:
  - a. Answers to First Set of Interrogatories and Responses to Requests for Production of Documents.
3. Information Provided by Defendant:
  - a. Supplemental Answers and Objections to Plaintiff's Interrogatories and Responses to Request for Production of Documents.
  - b. CBL Information Sheet.
  - c. Display Safety and Safety Sweep Guidelines.
4. Statements:
  - a. Felicia Jackson, dated June 7, 2014.
  - b. Helen Patterson, dated June 7, 2014



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5. Depositions with Exhibits:

- a. Randie Mullen, dated February 24, 2016.
- b. Helen Patterson, dated March 23, 2016.
- c. Steven Zomp, dated August 24, 2016.
- d. Felicia M. Jackson, dated November 14, 2016.

6. Other Information:

- a. Photographs.
- b. Sam's Club Incident Report, dated June 7, 2014.
- c. Sam's Club Security Videos, dated June 7, 2014.
  - i. Incident Location.
  - ii. Cashier Check-out.
  - iii. Exit.

**SUBMITTED MATERIAL REVIEW**

Sam's Club Incident Report:

This incident report stated, in part:

Type of Incident:	customer/member struck by falling object/merchandise.
What fell:	40LN chlorinator bucket
Approx. weight of object (lb):	40
Stacked how many high:	3

Statement of Helen Patterson:

- Helen Patterson stated that, *“Lady pulled bucket from stack and put it in her buggy. As she turned to take a step, a bucket fell and scraped her leg.”*

Statement of Felicia Jackson:

- Felicia Jackson stated that, *“The member made the statement that she picked up one pool chlorinator and put the bucket in her cart, then she felt that she got bit by a bug, but it was another chlorinator that hit her in the back of her right leg. The merchandise was stacked 3 high and stable.”*



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Deposition of Randie Mullen: A review of this deposition revealed the following information:

- Randie Mullen testified that prior to the incident day, she had been to the subject Sam's Club, and on the incident day, she went to buy chlorine tablets for her swimming pool [RM.12,15].
- Randie Mullen testified that prior to the incident day, she had not seen the buckets of chlorine tablets in that location [RM.16].
- Randie Mullen testified that the buckets of chlorine tablets weighed 40 pounds, and she was able to lift them herself and put them in her cart and not need assistance [RM.18].
- Randie Mullen testified that the subject display was three high and about 8 or 10 long on top of pallets [RM.19,20,22].
- Randie Mullen testified that the pallets sat directly on the floor and were about 5 inches high [RM.22].
- Randie Mullen testified that as she approached the display of buckets she could not tell if they were nestled properly [RM.24].
- Randie Mullen testified that as she approached the display none of the buckets were missing "*It was a beautiful display*" [RM.24].
- Randie Mullen testified that the bucket was heavy to lift off the display but she did not have a problem lifting it [RM.24,25].
- Randie Mullen testified that when she went into the store, she found the chlorine display, reached for the chlorine bucket and put it in her cart, "*When I reached like this...I went this way to put it – because it's very heavy. I put it in my buggy. As you can see my leg is turned exactly the way it was that day. As I dropped it in my buggy I felt this pain on the back of my leg and that's when I saw what happened. The buckets came tumbling on me*" [RM.15].
- Randie Mullen testified that she had to reach about a foot over her head to get a bucket off the top and held the bucket with two hands [RM.23].
- Randie Mullen testified that she did not see the bucket fall from the display; and when she turned, she saw the buckets strike the ground and saw two buckets on the ground [RM.25].



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- Randie Mullen testified that the two buckets came from beside the one she took and the bucket she took was the *“first one to the left – the end of the row,”* and it was two buckets in that row that fell and struck her [RM.26-28].
- Randie Mullen testified that she was not sure if both buckets hit her [RM.28,29].
- Randie Mullen testified that as she was taking the bucket from the display, she did not know if it came in contact with either of the two buckets that fell [RM.30].
- Randie Mullen testified that the buckets that fell were to the right of the bucket she took and were the top bucket and the one directly underneath [RM.31].
- Randie Mullen testified that she did not see any chlorine tablets on the ground that spilled out of the buckets that fell to the floor [RM.41,42].
- Randie Mullen testified that the greeter and store manager came over to her after the incident [RM.32,33].

Deposition of Helen Patterson: A review of this deposition revealed the following information:

- Helen Patterson testified that she was a door greeter at Sam’s Club; and on the incident day, Randie Mullen *“pushed her buggy up in front of her. She reached up and got a bucket, put it in her buggy, and then I heard a bucket hit the floor”* [HP.4,6].
- Helen Patterson testified that she was about 27 feet away from Randie Mullen when the incident occurred and nothing obstructed her view of the incident [HP.11,12].
- Helen Patterson testified that she did not look at the display either before or after the bucket fell [HP.19,20].
- Helen Patterson testified that she saw Randie Mullen take a bucket off the display and she did not notice anything wrong with the display when Randie Mullen took the bucket off of it [HP.21].
- Helen Patterson testified that she heard the bucket hit the floor but did not see it fall; and when she went over to Randie Mullen, she saw one bucket on the floor but did not recall what level of the display the one bucket fell from [HP.6-8].
- Helen Patterson testified that she did not recall how wide or how high the display was stacked [HP.12].



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- Helen Patterson testified that she did not know if the bucket that fell was from the same column of buckets where Randie Mullen removed one, and the bucket that fell remained closed and nothing spilled out [HP.13,14].
- Helen Patterson testified that she did not look at or inspect the display after the incident [HP.16,19,20,21].

Deposition of Felicia M. Jackson: A review of this deposition revealed the following information:

- Felicia Jackson testified that she was a manager at Sam's Club; and at the time of the incident, she was paged there was an incident and she saw Randie Mullen bleeding from her right leg, and gauze, an ice pack and a chair were provided to her [FJ.20].
- Felicia Jackson testified that Randie Mullen filled out a statement of what occurred [FJ.22].
- Felicia Jackson testified that she did not see any buckets on the ground and she did not know from which column the bucket that Randie Mullen put in her cart came from [FJ.27,47].
- Felicia Jackson testified that she did not check, look at or inspect the display after the incident, no one physically checked the display after the incident, and she did not know if the merchandise was stable at the time of the incident [FJ.27,30,40,44,50].
- Felicia Jackson testified that the displays were planned out in the home office [FJ.18].
- Felicia Jackson testified that the subject display was two pallets of pool chemicals stacked three high with eight columns, the pallet was about 4 or 5 inches tall, and she did not know the height of a bucket [FJ.23,24,26].
- In reviewing photographs, Felicia Jackson testified that a bucket was about 15 inches tall [FJ.25].
- Felicia Jackson testified that the overnight team made sure the buckets were secure and stable when they restocked [FJ.30].
- Felicia Jackson testified that all associates were in charge of making sure the products were safe for customers; and if an associate saw something unstable, they would fix it [FJ.30,32].



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- Felicia Jackson testified that she did not know why the buckets were stacked three high, and there was no directive from home office about how high they should be stacked [FJ.31,33].
- Felicia Jackson testified that the buckets sat down a little on the lid of the one underneath but she did not know the height of the lip, and to lift a bucket, it had to be lifted up and towards you and not pulled directly out towards you [FJ.37].

Deposition of Steven Zomp: A review of this deposition revealed the following information:

- Steven Zomp testified that he was a manager at Sam's Club [SZ.16].
- Steven Zomp testified that the home office determined where shelving was placed and to what height the product should be stacked [SZ.27].
- Steven Zomp testified that there were no signs displayed stating to ask for assistance from employees but an employee would give assistance if asked [SZ.28,29,93].
- Steven Zomp testified that a bump test was when an item was on a pallet and an employee would bump into it to make sure it was stable and safe, and the bump test was done on anything that would easily fall over or be unsafe to fall on someone [SZ.29].
- Steven Zomp testified that an employee who set up and stacked the product would do a bump test and it was their discretion whether or not to do a bump test [SZ.29,30].
- Steven Zomp testified that he did not ask if a bump test was done on the subject chlorine bucket display [SZ.49,71].
- Steven Zomp testified that it was recommended that employees did not lift above their shoulders for personal safety and the safe handling of the product [SZ.42].
- Steven Zomp testified that the manufacturer of the chlorine tablets did not provide guidelines on stacking of its products [SZ.53].
- Steven Zomp testified that the subject display was set up about ten days prior to the incident day and he was involved in setting up the display [SZ.64].
- Steven Zomp testified that typically the only time there was a check on the stability of a display would be if the product shifted in transit and generally pool chemicals did not shift [SZ.67,68].



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- Steven Zomp testified that a bucket weighed 40 pounds and there was about a 2-inch lip on top of the bucket that another bucket on top would sit inside the lip [SZ.68].
- Steven Zomp testified that there was a pallet that was 3 or 4 inches high, then the buckets stacked 3 high which totaled about 52 or 54 inches high [SZ.56,76,77].
- Steven Zomp testified that if someone were to lift the top bucket from the stack of 54 inches, they would have to lift it another 2 inches over the lip [SZ.77,78].
- Steven Zomp testified that there were two pallets with 8 columns and he did not know from which column the bucket fell at the time of the incident [SZ.60,61].
- Steven Zomp testified that when you lifted a bucket, you had to lift it up and out of the lip about 2 inches; if you pulled it directly out *“you will pull the whole thing over... It would just pull the whole stack if they’re interlocked together”* [SZ.68,69].
- Steven Zomp testified that he had stacked pool chemicals four high which would have been 65 inches high, there were no guidelines from home office about the height of stacking, and other Sam’s Clubs stacked their pool chemicals in the same manner [SZ.72,73].
- Steven Zomp testified that he did not know how the bucket that fell became dislodged and he believed it was the one under the bucket that was lifted off that fell [SZ.79].
- Steven Zomp testified that if a bucket was properly seated in its lip, it should be sturdy; and for a bucket to fall, it would have to been knocked out of the lip. But even if it was not seated properly, it would still not budge unless it was bumped into 4 or 5 inches to make it fall [SZ.80-82].
- In reviewing photographs, Steven Zomp testified that he did not see anything unsafe about the subject display [SZ.95,96].

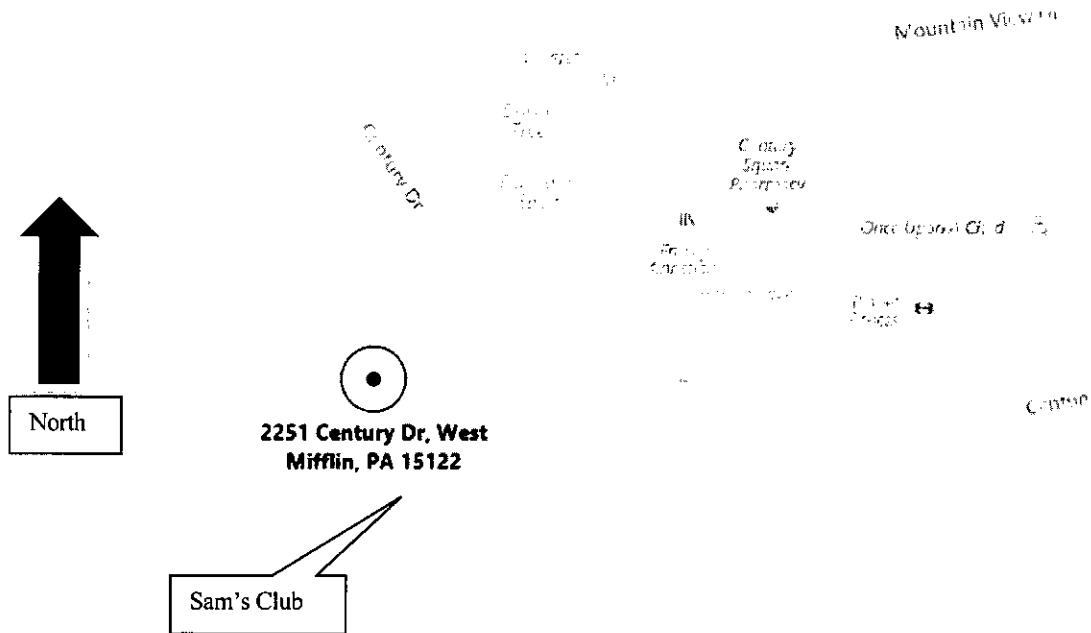
#### **SITE LOCATION AND ANALYSIS**

An examination of the Sam’s Club store located at 2251 Century Drive, West Mifflin, Allegheny County, Pennsylvania was not performed as conditions have changed. For reference and orientation, a Street Map and *“Birds-Eye”* Aerial View of 2251 Century Drive, are shown below:



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### Street Map

Reference: <https://binged.it/2gwvH05>



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**Birds Eye** Aerial Map

Reference: <https://binged.it/2gwvH05>



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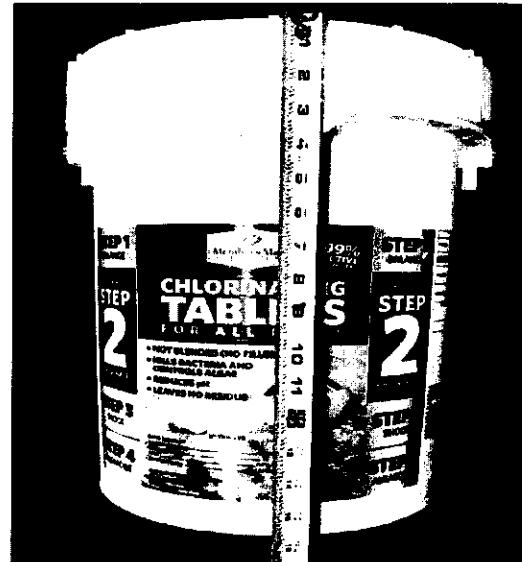
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## **BASIS OF OPINIONS**

### **Description of Incident**

At approximately 8:00 AM on Saturday, June 7, 2014, Randie Mullen was shopping at the Sam's Club store located at 2251 Century Drive, West Mifflin, Allegheny County, Pennsylvania, when she was struck by a chlorine bucket. Randie Mullen testified that when she went into the store, she found the chlorine display, reached for the chlorine bucket and put it in her cart, *"When I reached like this... I went this way to put it – because it's very heavy. I put it in my buggy. As you can see my leg is turned exactly the way it was that day. As I dropped it in my buggy I felt this pain on the back of my leg and that's when I saw what happened. The buckets came tumbling on me"* [RM.15].

Randie Mullen testified that she had to reach about a foot over her head to get a bucket off the top and held the bucket with two hands [RM.23]. Randie Mullen testified that she did not see the bucket fall from the display; and when she turned, she saw the buckets strike the ground and saw two buckets on the ground [RM.25]. Randie Mullen testified that the two buckets came from beside the one she took and the bucket she took was the *"first one to the left – the end of the row,"* and it was two buckets in that row that fell and struck her [RM.26-28].



Felicia Jackson testified that the subject display was two pallets of pool chemicals stacked three high with eight columns, the pallet was about 4 or 5 inches tall, and she did not know the height of a bucket [FJ.23,24,26]. Felicia Jackson testified that the overnight team made sure the buckets were secure and stable when they restocked [FJ.30]. Felicia Jackson testified that all associates were in charge of making sure the products were safe for customers; and if an associate saw something unstable, they would fix it [FJ.30,32].

### **Seismic Considerations for Steel Storage Racks Located in Areas Accessible to the Public - FEMA 460 – September 2005**

The Federal Emergency Management Agency (FEMA)'s mission is to *"support our citizens and first responders to ensure that as a nation we work together to build, sustain and improve our capability to prepare for, protect against, respond to, recover from and mitigate*



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*all hazards.*" During the past few decades, the number of large public warehouse stores (often referred to as big-box stores) across the nation has grown significantly, changing both consumer buying habits and the public's risk of injury. During an earthquake, occupant safety in a big-box store depends on both the structural performance of the building and on the performance of the storage racks and their contents. It is known that goods stored on the racks may spill or topple off posing a life-safety risk to the exposed shopping public. For the incident 40-pound chlorine buckets, Steven Zomp testified that when you lifted a bucket, you had to lift it up and out of the lip about 2 inches; if you pulled it directly out "*you will pull the whole thing over... It would just pull the whole stack if they're interlocked together*" [SZ.68,69].

To help mitigate these safety concerns, FEMA asked the Building Seismic Safety Council (BSSC) to develop the guidance. To do so, the BSSC established a Rack Project Task Group composed of practicing engineers, storage rack designers, researchers, representatives of the Rack Manufacturers Institute (RMI) and the Retail Industry Leaders Association, and members of applicable technical subcommittees responsible for updating the NEHRP Recommended Provisions. One of the Chapters contained in the publication included suggestions for improvements to securing contents within storage racks. Chapter 8, stated, in part, the following:

#### Chapter 8

##### SUGGESTED IMPROVEMENTS FOR SECURING CONTENTS WITHIN STORAGE RACKS

8.1 SCOPE Acceptable seismic performance of storage racks and their contents in public access facilities requires adequate restraint of contents. Contents falling from racks due to either operational mishap or earthquake shaking can potentially injure or even kill persons in the aisles. In this chapter, content restraint guidance is offered that is intended to prevent, or at least minimize the possibility of merchandise falling from storage racks during earthquakes. The guidance offered in this chapter is intended to be applicable to warehouse or big-box stores (Figure 8-1) located in the higher seismic regions of the United States. It is recommended that higher seismic regions be defined as locations where the design ground motion parameter SDS is 0.75g or greater. Under 1997 UBC provisions still in use in some states such as California, such values of SDS correspond to sites in Seismic Zones 3 and 4. Seismic Use Group I structures (it is recommended in Chapter 6 that typically racks retail stores be designated as SUG I) located at site with such values of SDS are assigned by the 2003 NEHRP Recommended Provisions to Seismic Design Category D or E. The guidance presented here is considered interim in nature, pending the development of an industry-wide standard for restraint of merchandise. There currently are no applicable reference standards and, therefore, the recommendations contained herein are based on observed industry practices, current regulations, limited analytical research and testing data, and observations of the performance of storage rack contents during earthquakes.

##### 8.2 CURRENT RESTRAINT PRACTICES AND REGULATIONS

8.2.1 Industry Practice with Regard to Securing Contents in Seismic Areas. Pallets that arrive at warehouse stores loaded with merchandise must be able to withstand the rigors of shipping and handling. Generally, some reliable means of confinement is employed to keep the merchandise (frequently individual boxes and containers) from separating. Once in the store, it is common practice to keep the pallets intact until broken open to provide individual items for display and sale.



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Fully loaded pallets also may be broken down, and their contents reshelfed on pallets with smaller loads. Pallet loads typically are secured by such means as banding or stretch-wrapping, a practice generally referred to as "blocking" in the industry. Merchandise blocking enables forklift operators to safely and efficiently move merchandise. Merchandise blocking also reduces the likelihood of individual merchandise falling off the pallets and/or off the racks and into the aisles. However, it also is common practice to break-down loaded pallets into individual components (e.g., boxes or containers) and to place these directly on rack shelves, generally at the lower levels of the rack to allow customer access to the merchandise.

The condition of the merchandise being transported and displayed on wood pallets has become common place within big-box stores. In the absence of having proper securing, merchandise can fall off the pallet. The condition of the merchandise becoming loose can be the result of customers moving items, the transport of the wood pallet by forklift, seismic activity, etc. The lack of properly securing the 40-pound chlorine buckets stacked to a height of over 50 inches created a foreseeable hazard. The hazard of the absence of having properly secured the display merchandise, in this instance the 40-pound chlorine buckets, allowed the bucket to fall and strike Randie Mullen. Had Sam's Club properly secured the displayed merchandise, this incident could have been avoided. The creation of the hazardous condition by Sam's Club in failing to properly secure the merchandise resulted in this incident occurring.

#### Borough of West Mifflin, Allegheny County, PA Code

The Borough of West Mifflin, Pennsylvania adopted the International Property Maintenance Code/2000 on February 19, 2008 by Ordinance No. 1156. Ordinance No. 1156 stated, in part, the following in Section 1, *Chapter 5- Code Enforcement of the Code of Ordinances of the Borough of West Mifflin...*:

Ordinance No. 1132, Section 1, Part 1, Section 102 is hereby amended to adopt the following as part of the Pennsylvania Uniform Construction Code and Borough of West Mifflin Construction Code:

7. International Property Maintenance Code/2006

#### International Property Maintenance Code/2006

Ordinance No. 1156 of the Borough of West Mifflin adopted the International Property Maintenance Code/2006. The International Property Maintenance Code/2006 stated, in part:

##### **Section PM-202 GENERAL DEFINITIONS**

**Operator:** Any person who has charge, care or control of a structure or premises which is let or offered for occupancy.

**Owner:** Any person, agent, operator, firm or corporation having a legal or equitable interest in the property; or recorded in the official records of the state, county, or municipality as holding title to the property; or otherwise having control of the property, including the guardian of the estate of any



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such person, and the executor or administrator of the estate of such person if ordered to take possession of real estate by a court.

**Person.** An individual, corporation, partnership or any other group acting as a unit.

**Premises.** A lot, plot or parcel of land, easement or public way, including any structures thereon.

#### Section PM-301 GENERAL

**301.1 Scope:** The provisions of this chapter shall govern the minimum conditions and the responsibilities of persons for maintenance of structures, equipment and exterior property.

**301.2 Responsibility:** The owner of the premises shall maintain the structures and exterior property in compliance with these requirements, except as otherwise provided for in this code. A person shall not occupy as owner-occupant or permit another person to occupy premises which are not in a sanitary and safe condition and which do not comply with the requirements of this chapter. Occupants of a dwelling unit, rooming unit or housekeeping unit are responsible for keeping in a clean, sanitary and safe condition that part of the dwelling unit, rooming unit, housekeeping unit or premises which they occupy and control.

#### Section PM-305 INTERIOR STRUCTURE

**305.1 General.** The interior of a structure and equipment therein shall be maintained in good repair, structurally sound and in a sanitary condition. Occupants shall keep that part of the structure which they occupy or control in a clean and sanitary condition. Every owner of a structure containing a rooming house, housekeeping units, a hotel, a dormitory, two or more dwelling units or two or more, nonresidential occupancies, shall maintain, in a clean and sanitary condition, the shared or public areas of the structure and exterior property.

**305.2 Structural members.** All structural members shall be maintained structurally sound, and capable of supporting the imposed loads.

**305.3 Interior surfaces.** All interior surfaces, including windows and doors, shall be maintained in good, clean sanitary condition. Peeling, shipping, flaking or abraded paint shall be repaired, removed or covered. Cracked or loose plaster, decayed wood and other defective surface conditions shall be corrected.

**305.4 Stairs and walking surfaces.** Every stair, ramp, landing, balcony, porch, deck or other walking surface shall be maintained in sound condition and good repair.

The actions and/or inactions of Sam's Club caused this incident to occur. The failure of Sam's Club to properly secure the 40-pound chlorine buckets to the wood pallet created a hazardous condition within the interior of the Sam's Club. The International Property Maintenance Code/2006 required that "*The interior of a structure and equipment therein shall be maintained in good repair, structurally sound and in a sanitary condition.*" The condition of the stacked 40-pound chlorine buckets was not structurally sound. Had Sam's Club properly secured the merchandise on the wood pallet, this incident could have been avoided. By not properly securing the 40-pound chlorine buckets to the wood pallet, Sam's Club knowingly created a hazard.

Sam's Club was aware that merchandise could fall from a loaded pallet. Steven Zomp testified that a bump test was when an item was on a pallet and an employee would bump into it to make sure it was stable and safe, and the bump test was done on anything that



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would easily fall over or be unsafe to fall on someone [SZ.29]. Steven Zomp testified that an employee who set up and stacked the product would do a bump test and it was their discretion whether or not to do a bump test [SZ.29,30]. Unfortunately, the “bump test” was unscientific, not repeatable and/or reliable and as a result, had a “bump test” been performed, it was inadequate to ensure the stability of the stacked merchandise. For this reason, wrapping the merchandise would have precluded the fall of the 40-pound chlorine buckets, and this incident would not have occurred.

### **OPINIONS**

The following opinions are based upon a review of the materials and my experience, within a reasonable degree of engineering certainty:

- The actions and/or inactions of Sam’s Club caused this incident to occur.
  - The lack of properly securing the 40-pound chlorine buckets and stacking to a height of over 50-inches created a foreseeable hazard.
  - The hazard of the absence of having properly secured the displayed merchandise, in this instance the 40-pound chlorine buckets, allowed the bucket to fall and strike Randie Mullen.
  - Had Sam’s Club properly secured the displayed merchandise, this incident could have been avoided.
  - The creation of the hazardous condition by Sam’s Club in failing to properly secure the merchandise resulted in this incident occurring.
  - Had Sam’s Club properly secured the merchandise on the wood pallet, this incident could have been avoided.
  - By not properly securing the 40-pound chlorine buckets to the wood pallet, Sam’s Club knowingly created a hazard.
- The “bump test” performed by Sam’s Club employees was unscientific, not repeatable and/or reliable and as a result, had a “bump test” been performed, it was inadequate to ensure the stability of the stacked merchandise. For this reason, simply wrapping the merchandise would have precluded the hazard of the falling chlorine bucket and this incident would not have occurred.



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- While there is no testimony about the reason the bucket fell, by a review of the product and display, this incident occurred because the 40-pound chlorine buckets were not stacked in a manner that was stable and structurally sound.
  - Sam's Club had control over the stacking of these buckets, and no other customers made a purchase from the display on the morning of the incident to disturb the display.
  - Had the display of the 40-pound chlorine buckets been stable and structurally sound, this incident would not have occurred.
  - Had the display of the 40-pound chlorine buckets been stacked to include only two buckets, instead of three, this incident may not have occurred.
- The International Property Maintenance Code/2006 required that "*The interior of a structure and equipment therein shall be maintained in good repair, structurally sound and in a sanitary condition.*"
- The condition of the unsecured merchandise, was a known hazard and violated the International Property Maintenance Code/2006.

#### **COMMENTS**

This report may be supplemented if additional information becomes available.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Keith A. Bergman'.

By:  
**Keith A. Bergman, PE**  
*Bergman Engineering, LLC*



## Keith A. Bergman, PE

Consulting Engineer in Civil Engineering, specializing in Highway and Street Design, Traffic Engineering, Utilities Construction, Storm Drainage, Pedestrian Safety, Walkway Surface Evaluations, Concrete and Asphalt Pavement Evaluations. Extensive experience in Construction Management, Project Related Claims, Job Site Safety, Codes and Standards, ADA Compliance.

**Professional Engineer:** California • Delaware • Florida • Maryland • Massachusetts • New Hampshire • New Jersey • New York • Pennsylvania • Virginia • Ohio • Illinois • Michigan

**Education** Bachelor of Science Degree in Civil Engineering, San Diego State University, 1991

### **Professional Background**

#### **2011-Present – Bergman Engineering, LLC – Harleysville, Pennsylvania:**

Civil Engineer responsible for evaluating matters involving premise liability, steps, stairways, walkways, highway and traffic engineering, including intersections; urban and rural roadways; interstate highways; parking lots; signage, pavement marking and traffic controls; codes and zoning requirements; public utilities including sanitary sewer, storm sewer and water mains. Plan and project document review; site inspections. Consulting in code compliance and standards; work zone safety, construction management, claims and safety. Evaluations of ice, snow control, grading, storm water management, detention and retention basins, and soil and sedimentation control.

#### **2008-2012 – Fleisher Forensics – Ambler, Pennsylvania:**

Civil Engineer responsible for evaluating matters involving highway and traffic engineering, including intersections; urban and rural roadways; interstate highways; parking lots; signage, pavement marking and traffic controls; codes and zoning requirements; sidewalks and crosswalks; public utilities including sanitary sewer, storm sewer and water mains. Plan and project document review; site inspections. Consulting in code compliance and standards; work zone safety, construction management, claims and safety. Evaluations of ice, snow control, grading, storm water management, detention and retention basins, and soil and sedimentation control.

#### **2006-2008 – Bohler Engineering, Inc. – Chalfont, Pennsylvania:**

Project Manager responsible for the preparation of Civil Engineering and Highway Design Plans for land development projects including residential, commercial, and industrial projects. This included the preparation of the requisite construction drawings for parking lot and sidewalk design, sewer, water, storm drain and utility design, roadway and associated infrastructure design, including intersection and driveway design as well as pavement design, traffic control and traffic signal design. Responsibilities also included public hearing testimony, construction cost estimating, client, contractor and jurisdictional coordination, and concept design and analysis. Managerial responsibilities include staff reviews, interviewing and evaluating potential new hire candidates, budget preparation, and client invoicing.



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**2005-2006 – Elliott Building Group – Langhorne, Pennsylvania:**

Vice-President of Land Development responsible for engineering; design; construction management, claims, and safety; and dedication of residential and commercial projects in Pennsylvania, New Jersey, Maryland and Delaware. Responsible for coordination with municipal officials for permitting and approvals prior to and during construction. Construction manager responsible for processing payment requests, health and safety compliance, contractor claims and change orders, scheduling, OSHA regulations and compliance, EPA regulations and implementing soils conservation district requirements for soils erosion and sedimentation control.

**1996-2005 – McMahon Associates Inc. – Fort Washington, Pennsylvania:**

General Manager in charge of Engineering and Construction in the Fort Washington Office of McMahon Associates, Inc. including traffic planning, traffic signals, highway design, land surveying, structural engineering construction management and inspection. Responsible for a staff of over 40 employees including Project Managers, Land Surveyors, Project Engineers, Engineering Designers, and Technicians. Managed sub-consultants' work product and contracts, including geotechnical engineers, structural engineers, landscape architects, and environmental engineers. Resident Engineer on Highway/Street construction projects. Agency coordination included meetings and interface with PennDOT, PA Turnpike Commission, NJDOT, DelDOT, Mass Highway, and New Hampshire DOT. Project presentations at public meetings.

**1993-1996 – Nasland Engineering – San Diego and Riverside, California:**

Senior Design Engineer responsible for designing and processing land development plans for both private and public improvements including site plan design, ADA compliance, municipal roadway design, Caltrans Highway Access permitting, lot layout, sewer, water and storm drain design, and grading design. Presented projects at public hearings. Responsible for construction management, construction safety, cost estimating, negotiating and processing change orders.

**1991-1993 – Crew Engineering and Surveying – San Diego, California**

Engineer responsible for designing, specifying, and processing land development applications for private improvements including site improvements, municipal roadways, traffic control, Caltrans Highway Access permitting, lot layout, soils testing and evaluation, sewer, water and storm drain design, grading design and septic system design.



## Keith A. Bergman, P.E.

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### **Affiliations**

American Road & Transportation Builders Association, ARTBA  
ARTBA Young Executive Leadership Program 2004-2005  
American Society of Civil Engineers, ASCE  
American Society of Highway Engineers, ASHE  
Engineers Club of Philadelphia  
Institute of Transportation Engineers, ITE  
    ITE Expert Witness Council  
    ITE Transportation Safety Council  
National Society of Professional Engineers, NSPE  
Pennsylvania Society of Professional Engineers, PSPE  
    Valley Forge Chapter Coordinator of MathCounts 2004-2005  
Elected Board Member of Hammersmyth Farms Homeowners Association 2005 – Present  
Planning Commissioner for Lower Salford Township, Montgomery County, PA 2001-2009  
Souderton Area Boys Lacrosse Association, SABLA 2006-2009  
Lower Salford Township, Montgomery County, PA, Board of Supervisors 2009-Present  
    Lower Salford Township Police Committee 2009 – Present  
    Lower Salford Township Golf Committee 2011 – Present  
Indian Valley Regional Planning Commission 2014 – Present  
    Delegate to the Multi-Regional Greenway Study 2015 – Present  
Montgomery County Association of Township Officials, Executive Committee 2016 - Present

### **Presentations and Conferences**

Transportation Engineering and Safety Conference, Traffic Accidents and Design, Penn State, 2010  
Transportation Engineering and Safety Conference, Accidents and Design, Penn State, 2011

### **Articles and Publications**

ITE Expert Witness Council Newsletter Editor 2010 - 2012  
    Summer & Winter 2010; Spring, Summer, Fall & Winter 2011  
Distracted Driving - PSPE Reporter, Winter 2010